

I Sing the Body Electric

I sing the Body electric;  
The armies of those I love engirth me, and I engirth them;  
They will not let me off till I go with them, respond to them,  
And disconcert them, and charge them full with the charge of the Soul.

Was it doubted that those who corrupt their own bodies conceal themselves;  
And if those who defile the living are as bad as they who defile the dead?  
And if the body does not do as much as the Soul?

And if the body were not the Soul, what is the Soul?



And if the body were not the Soul,  
what is the Soul?

The beautiful and terrible evidence is in.  
We are the state of our bodies

The ridiculously obvious case of the body as self:

## Gourmand Syndrome

“...symptoms also include obsessive talking and writing about gourmet foods, as well as consuming them. *It can be triggered by a lesion in the right anterior brain.*”

emphasis mine

“Swiss brain scientists have collected several dozen cases of people who suddenly developed a passion for fine food after damage to a particular region of their brains.

Typically those who suffer from gourmand syndrome - if ‘suffer’ is the word - were indifferent to good food before their stroke, hemorrhage, tumor or injury.”

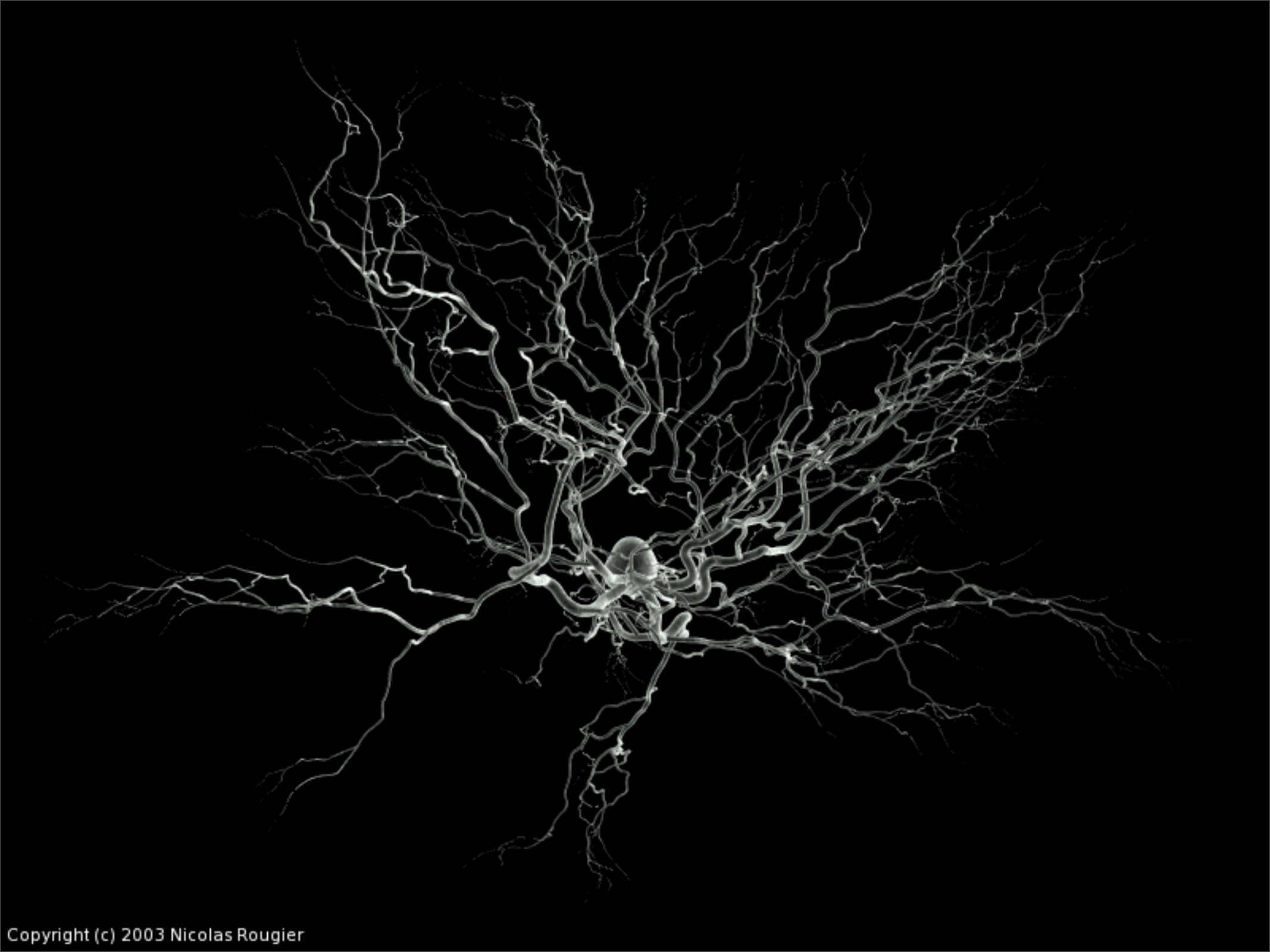
--Seattle Post-Intelligencer, May 22, 1997





Society is the sum of our bodies, so what we do to  
our bodies, we do to society.

In this head the all-baffling brain;  
In it and below it, the makings of heroes.





# Brain Imaging as technicolor phrenology

Love, hope, philosophy, terrorism, etc. are *abstract concepts*.  
They don't have physiological "centers"

## Actual studies:

1. **Does Rejection Hurt?** An fMRI Study of Social Exclusion. Yes. Move on.
2. **First flush of love not emotional.** I love this study. Includes the all important analysis on eating chocolate.
3. Best of all, **This is your brain on Politics.** Revealed things like people have mixed emotions about Hillary Clinton, based on the mixed emotion center of the brain lighting up.

From the Oxford Uehiro Centre for Practical Ethics article  
on the political study:

"Neuroscientists have now started playing political pundits and, as some might put it, are risking confusing solid science with something worryingly close to astrology. The confident, chatty interpretations given by the authors to activation in various areas of the brain in response to the image of a politician go well beyond anything backed by serious science."

"The problem is, however, that such neuropunditry isn't really compatible with the existing peer-review process."

Imaging matters as much as media makes it out to, but not the way the reporting would make you think.

In short: There is no fast car, shopping, big boobies,  
or democratic candidate preference centers in the  
brain.

Sorry.

Grant seeking scientists, please stop looking.  
Busy sci/med reporters and editors, please stop  
being idiots.

Opening the black box is so important

We are ravaged as a society by mental illness. Maybe we always were, it's hard to tell. But now there's more of us.

Mental health is like the environment, it's something we're going to have to learn to tackle realistically in the next hundred years if our society hopes to survive.

# What happens when neurology and law collide?

free will

imaging as evidence

predicting abnormal behavior

treatment v justice

The brain is a disruptive technology in justice



The first stop on Neurolaw is always Free Will

Prof James Grimmerman @ New York Law School  
pointed out to me this is a red herring.

## Law requires personal responsibility

Lawyers and judges are not going to care about whatever we find out about free will. Law requires free will, whether it exists or not.

Obviously they have no choice.

So how do discoveries in Neurology impact Law?

Can you see crime in BRAINS?

Tendency to violate  
copyright center of the brain



## MRI Evidence in the court room

This is often emotionally incontrovertible evidence.

We don't know if it works, we don't know when it fails.  
But the pictures are more compelling than the data, and  
unlikely to be questioned by juries.

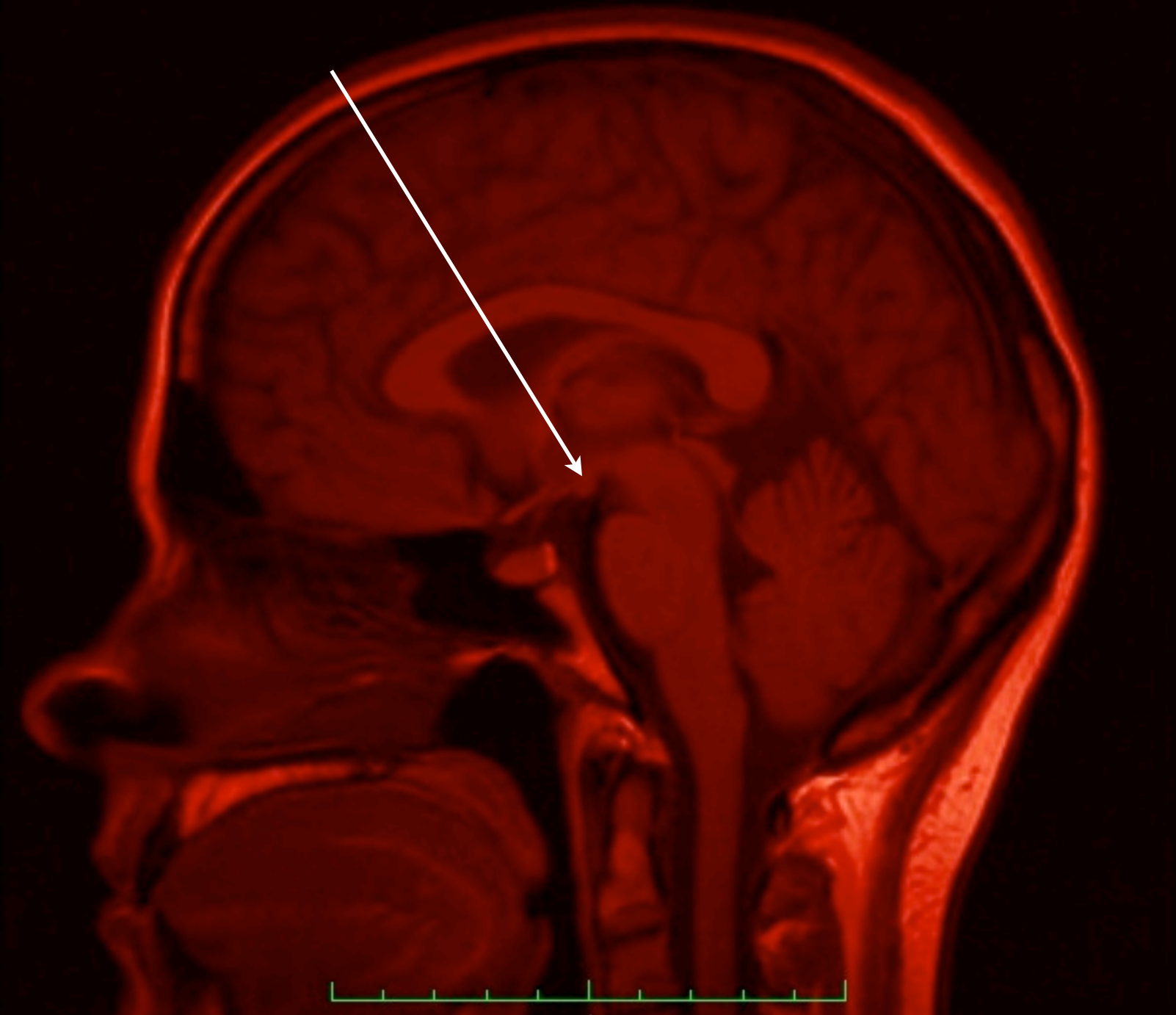
No Lie MRI, Inc

From the name alone you get the feeling these guys  
probably don't do nuance



Using neurology to predict abnormal behavior

Is it safe to let this woman roam free?







This is likely to be true of some class of what we think of as criminal behavior.

This is positive and negative. There's a thin line between preventative treatment and a priori conviction.

We owe it to the at risk to try,  
but we also owe it to them to protect them from an eager  
legal systems that often punishes on the basis of stigma.

But the biggest disruption is like to be neurological modification itself, should we call it treatment or enhancement.

How do you punish that which you can simply treat?



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# Health and Behavior

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Posted 7/28/2003 6:46 AM Updated 7/28/2003 6:35 PM

## Doctors say pedophile lost urge after brain tumor removed

CHARLOTTESVILLE, Va. (AP) — There was something wrong with the schoolteacher with the headache — doctors could see that from the start.

Though charming and intelligent, the 40-year-old man couldn't stop leering at female nurses. He had been in trouble with the law for sexual advances toward his stepdaughter, and now he was talking about raping his landlady.

University of Virginia Medical Center neurologists Dr. Russell Swerdlow and Dr. Jeffrey Burns had never seen a case like this.

The man had an egg-sized brain tumor pressing on the right frontal lobe. When surgeons removed it, the lewd behavior and pedophilia faded away. Exactly why, the surgeons cannot quite explain.

"It's possible the tumor released some pre-existing urges," Burns said. "But that's a tough debate, we just don't know."

The outcome raises questions not only about how tumors alter brain function, but also how they can influence behavior and judgment.

Daniel T. Tranel, a University of Iowa neurology researcher, said he has seen people with brain tumors lie, damage property, and in extremely rare cases, commit murder.

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# The magical world of cognitive enhancing pharmaceuticals!

## WEEEEEE!

(“Drugs win drug war” - The Onion)

Worms

By: kissthis



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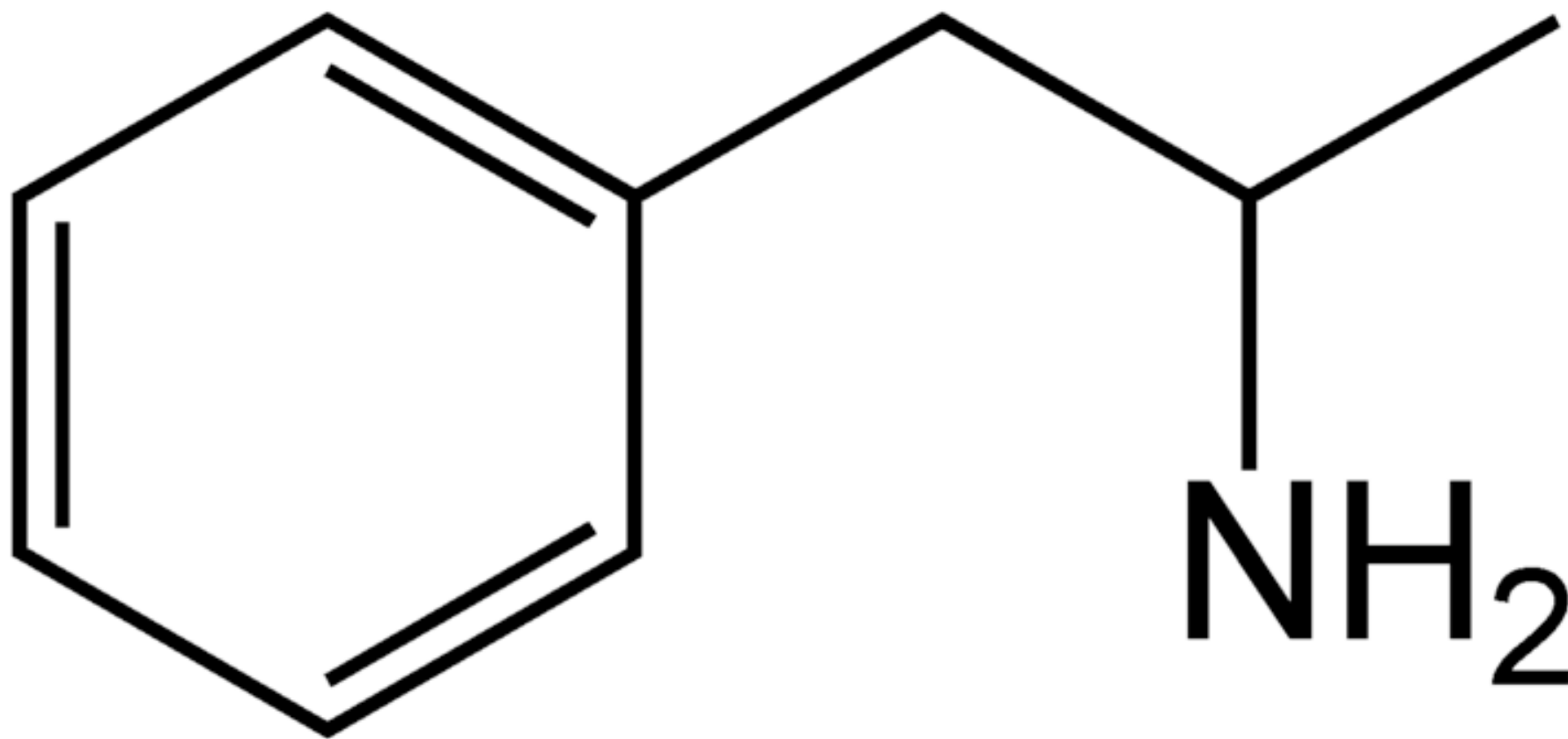
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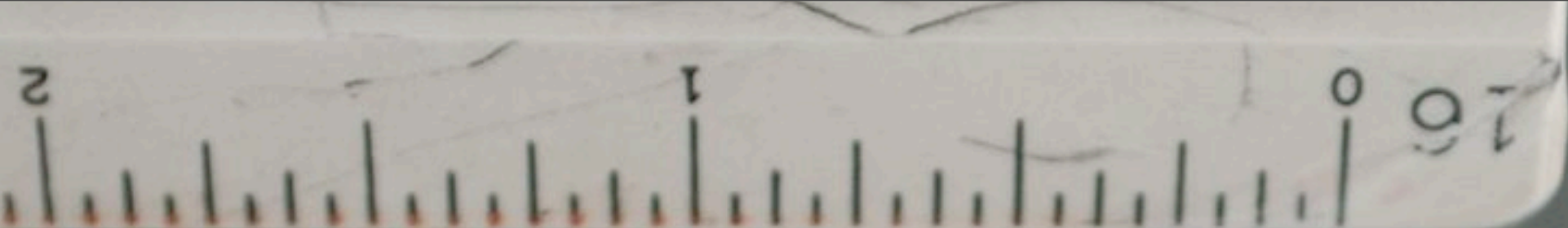






Frank Thompson

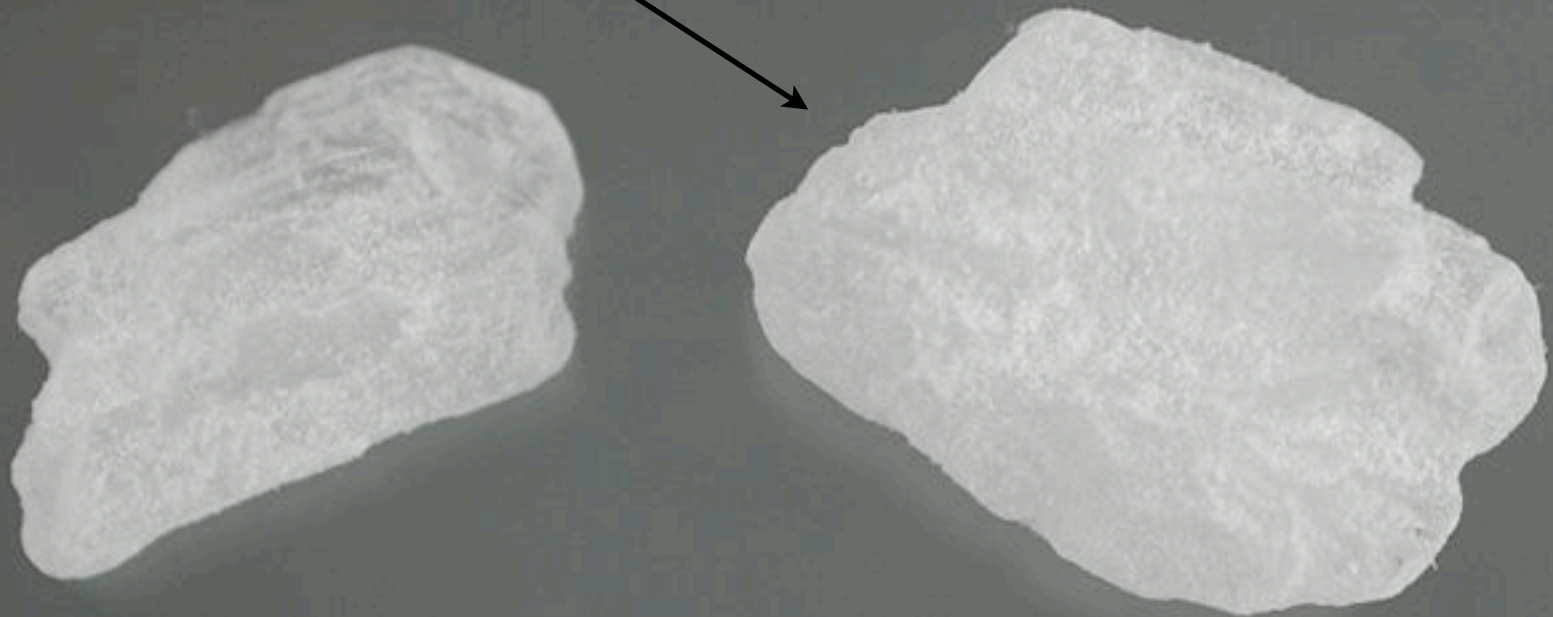






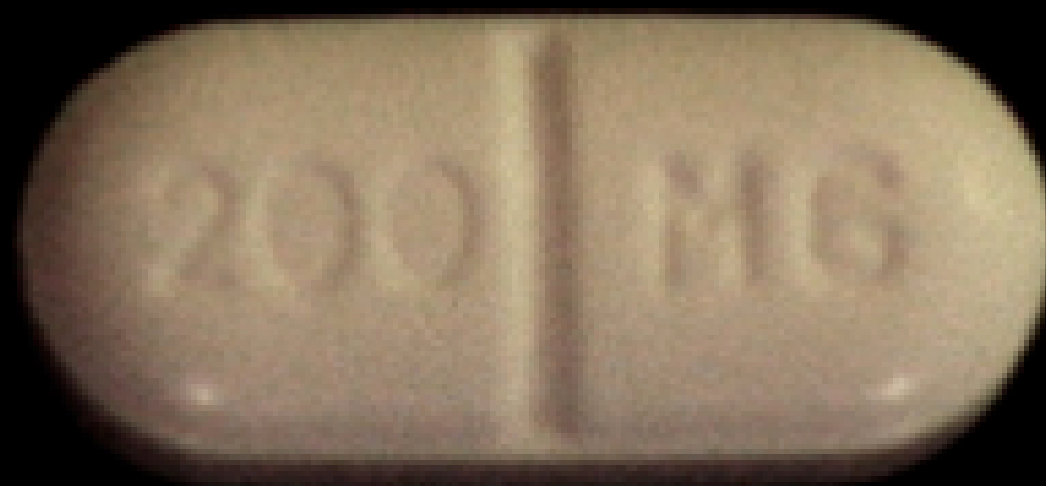
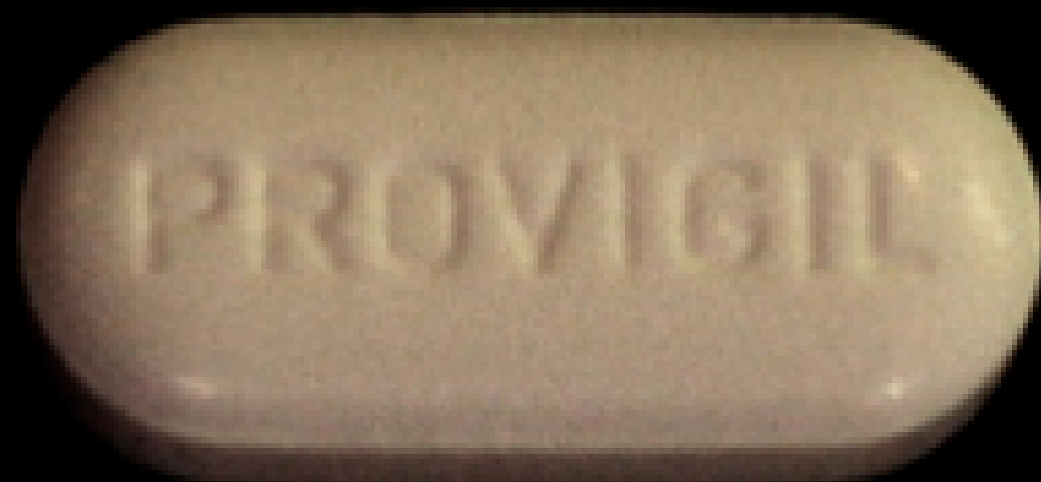


Crystal Meth









Ethics, Smethics

Let's call this drug Nexdafinil, trade name Morvigil.  
It's a safe and effective cognitive enhancement drug.

How does its popularity change society?

Well, there's the obvious:

- N Feb 28 Fowler, Glenna SALE 75% OFF on M()rvigIL
- N Feb 28 gunar kadosh Order Brand M0rvig-il US Pharmmacy. FDA Approved
- N Feb 28 Kirby Mccullough Save on Generic Meds! MorvIgel # \$35. CIAALIS.
- N Feb 28 Courtney Clarke I want sale you rolex . Do you want one?
- N Feb 28 Rafael U. Perkins Herbal /M\orvigi| comes to your rescue!

There's an historical example of a cognitive enhancer  
unleashed on society.

So what happened?







Paris Chez Monsieur Toilettier



“Whereas it is most apparent that the multitude of Coffee Houses of late years set up and kept within this Kingdom... and the great resort of idle and disaffected persons to them, have produced very evil and dangerous effects... divers, false, malicious, and scandalous reports are devised and spread abroad to the Defamation of His Majesty's Government, and to the disturbance of the Peace and Quiet of the Realm...”

-Charles II











Photo © The National Gallery, London.







# Declaration of Independence









# Storming the Bastille





They dealt with the same issues we're confronting



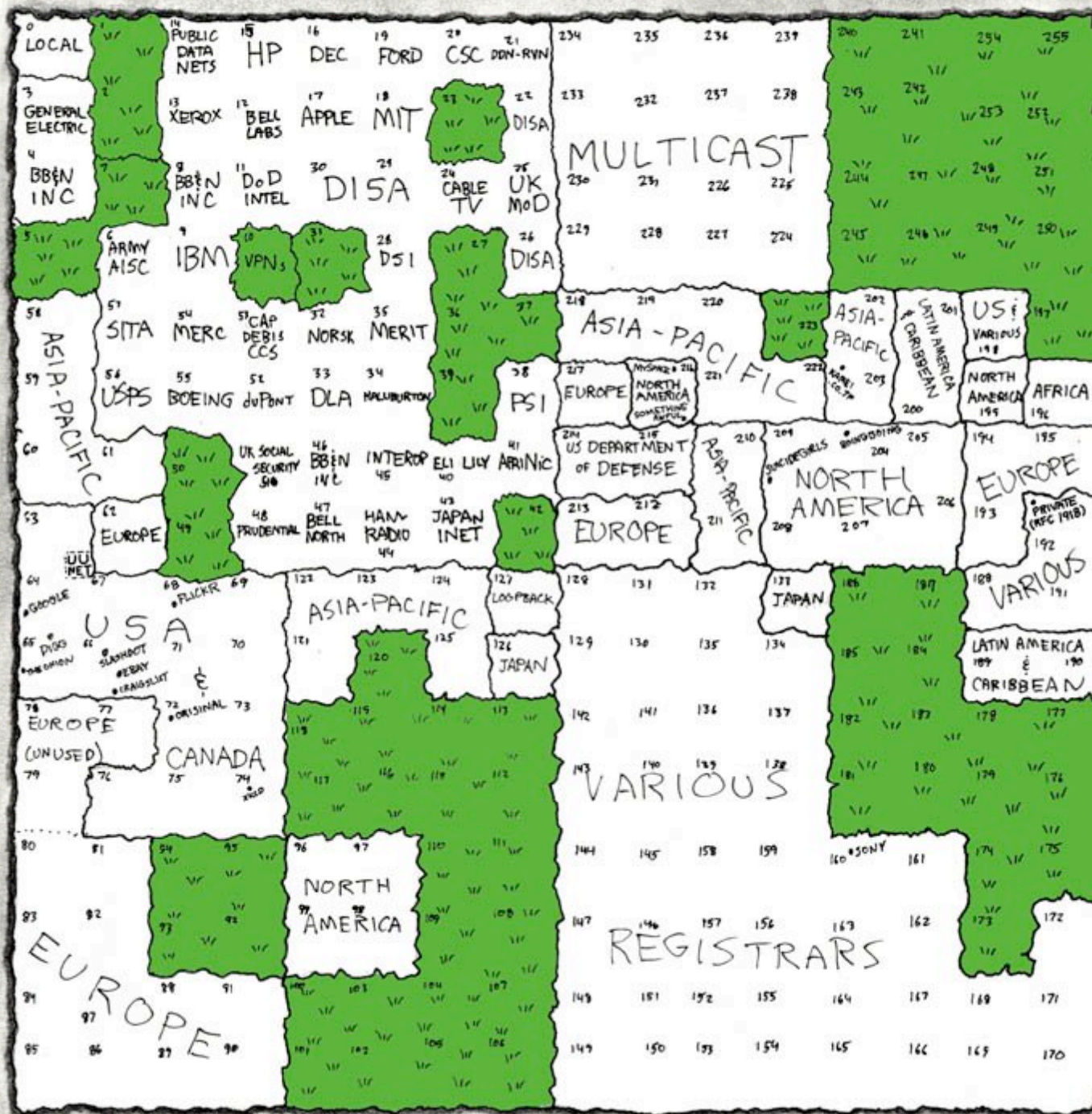




One big difference: Pill taking isn't social.



# MAP OF THE INTERNET



(XKCD)

Morvigil could be bad news for stable governments.

Their citizens will think more and more sharply,  
if coffee is any evidence, they are likely to be critical.

A less tired population is more more likely to act on that  
criticism than one struggling with exhaustion from work and  
bad sleep schedules.

Morvigil would make people agile and energetic.

Every affect of Morvigil would be destabilizing, all together,  
the impact is hard to predict.

But like the people themselves, can governments  
give up the additional productivity and  
intellectual gain?



Pharma is the tip of the ice berg, this story could apply to  
any enhancement,  
be it drug, surgery, or non-invasive procedure.

Adam was my grandfather  
a tall spoiled child  
a red clay tower  
in Eden green and mild



The end of my inquiries last year brought me to  
the question

What counts as human?







By: Floccinaucinihilipilification



MULTI SIZE SAVE HELP



MULTI SIZE SAVE HELP











The Human Condition:

Nasty, Brutish, and Short.

The Human Condition:

Not as  
Nasty, Brutish, and Short  
as it used to be.

# What is Pathology

What do we pathologize?

What is still just how people are?

Non pathology has broad normal ranges

Characteristics like physique, intelligence, anti-social attitudes, energy levels, resolution of sense perception and reduced libido in women might be challenges, but they aren't illnesses. People are expected to develop ways of living with these.

What we do pathologize has narrow normal ranges

Sense perception when it's bad vision, obesity, certain anti social attitudes, sadness, the ability to get measles, fertility, erectile dysfunction in men.

This is an arbitrary and in many ways cruel list.

I can be treated for being fat, but not short. Both of them are shown to limit my opportunities and shorten my life.







Drugs are bad.

Major arm surgery is good?

Even Lasik and enhancing contacts aren't cheating.

These are your tan faced children

...Man can tear it,  
Crush it, destroy it;  
Uproot the trailers,  
The thumb-shaped leafings.

# Communities of Participation





piercers

drug users

or even

l33t speaking lolcats

Not all these tool are going to definitely be good,  
and people will be manipulated.

DTC gene testing:  
The next herbalism

But with more privacy disaster

## Full Privacy Statement

### 23andMe Respects Your Privacy

23andMe recognizes the importance of privacy and respects your choices to store and access your information in a private and secure manner.

This Privacy Statement is intended to answer questions that you may have related to how we handle your personal information. We want to explain what information we collect from you and what we do with it. We have many controls, systems, and procedures that govern how we use, handle, and store this information in a secure and private manner and we want you to know about them. We also want to clarify how this information may be shared with other parties and what controls you have regarding the handling of your information.

Our services connect you with your genetic information. 23andMe collects and stores your genetic information for you in our databases and offers you access to a web-based interface with unique tools to help you interpret and review the information. We are committed to providing you a secure, user-controlled environment to access, share, and explore your genetic information. At the same time, you share some responsibility for maintaining privacy and security, like keeping your password secure.

We encourage you to familiarize yourself with our Privacy Statement. Our [Consent Form](#) and [Terms of Service](#) explain that, by using our website and signing up for our service, you are allowing us to process your personal information according to the provisions set forth in those documents and this Privacy Statement.

### Personal Information

23andMe collects several types of personal and non-personal information either directly from you and/or through our service providers and partners. These can be described as follows:

#### *Personal Information*

Personal information is information that can be used to uniquely identify you or that you may consider sensitive. We collect such

~~information from you when you purchase our services, create a personal account, complete surveys, and download data, and from other~~



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- **Account Information** - Account Information is personal information that we collect from you when you purchase our service. Examples of such information include your name, credit card information, billing and shipping addresses, and contact information such as an email address or telephone number. We also use log files and cookies to maintain our website and monitor the quality of the service we provide to you. Cookies used by the website are linked to a customer's Account Information. (See Log Files and Cookies below for more information.)
- **Genetic Information** - Genetic Information consists of your genotype, that is, the As, Ts, Cs, and Gs at particular locations in your genome. When you purchase 23andMe's service, you send your saliva sample to us by postal mail for analysis, along with a barcode that identifies you to us but not to the processing laboratory. Our contracted laboratories extract and analyze DNA from saliva samples and securely communicate the resulting Genetic Information to us along with the barcode for each individual analyzed. DNA and saliva samples are destroyed after the laboratory completes its work, which includes processing, analysis and reporting of data. Genetic Information is then stored securely in our databases and can be accessed by you via our website by using the claim code and creating your personal account. It is important to note that the laboratories conducting DNA extraction and analysis do not have access to your name or any of your Account Information, as described above. Our instructions for sample collection and shipment clearly indicate that you must send only your saliva sample, which is labeled with a unique barcode, with no other identifying information. To protect your privacy, we do not collect any information other than the bare minimum that is necessary.

## Disclosure Required By Law

Please be aware that under certain circumstances personal information may be subject to disclosure pursuant to judicial or other government subpoenas, warrants, or orders. In the event that we are legally compelled to disclose your personal information to a third party, we will notify you with the contact information you have provided to us in advance unless doing so would violate the law or a court order.

## Disclosure to Research Partners:

One of 23andMe's goals is to contribute to scientific research and the advancement of genetic knowledge. To achieve our research goals, 23andMe may enter into partnerships with commercial and/or non-profit organizations that conduct scientific and/or medical research. Such partnerships may allow an organization access to our databases of Genetic Information and other contributed Phenotypic Information, so that, for example, the organization can search, without knowing the identities of the individuals involved, for the correlation between presence of a particular genetic variation and a particular health condition or trait. We may receive compensation from these research partners. Before we embark on any research collaborations we will establish a research advisory committee to guide such collaborations and undertakings. In addition, we will require partner organizations by contract to agree to maintain confidentiality consistent with this Privacy Statement. Partner organizations will not have access to your Account Information (e.g., name, contact information, payment information).

On occasion, we may pass along a request to you from such a partner, asking for you to participate in a specific study or to volunteer further information. The partner does not know to whom we send these queries and you have no obligation to respond.

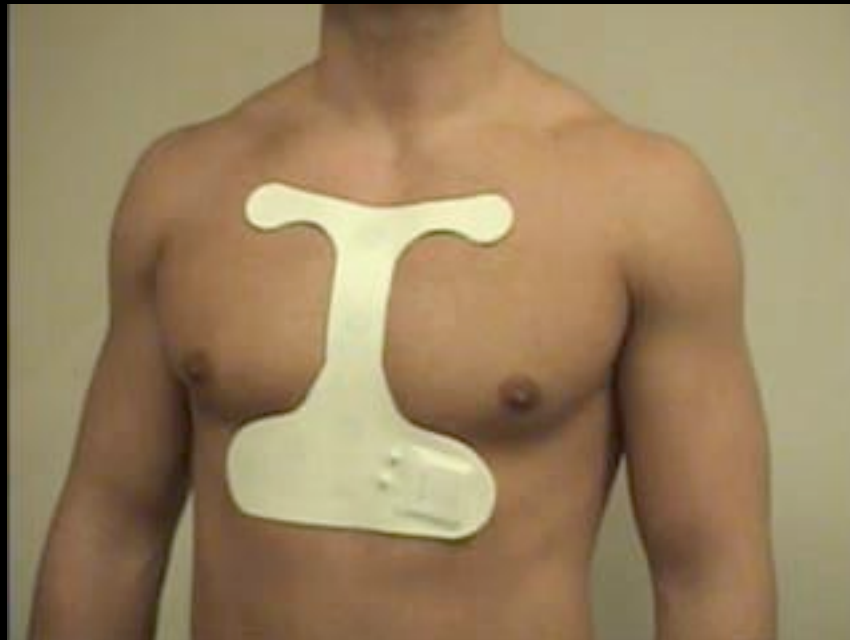
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Empowerment + tools = weird

and tools can be very simple







# Wireless surveillance

We need it

We want it

It will empower us

It will be used against us.

Fundamentally the relationship to the body is changing,  
which means we are changing,  
which means society is changing

BBC FOUR







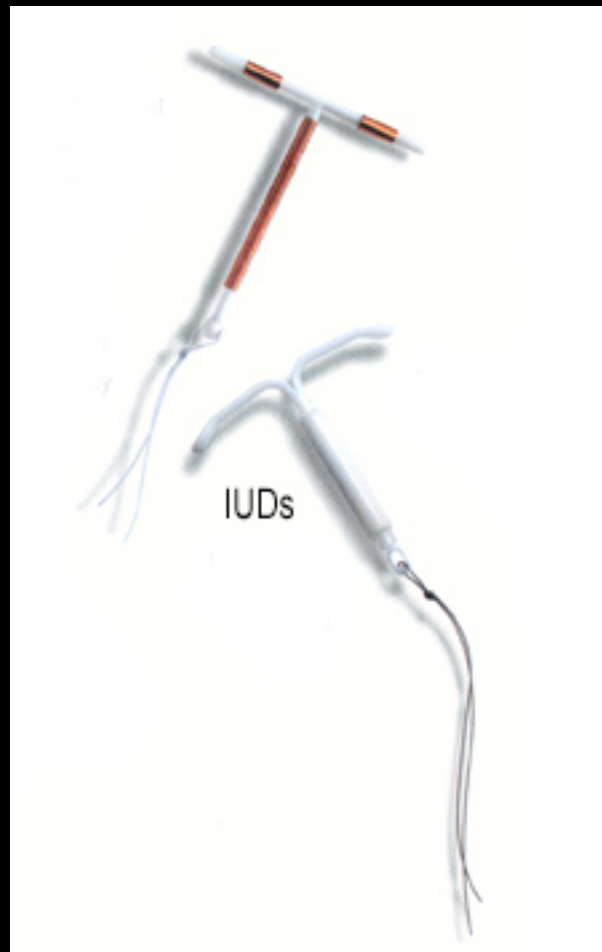








By: Floccinaucinihilipilification















BBC FOUR





FIG. 2.15. A coffeehouse at the close of the seventeenth century. Note the papers on the table in the foreground and the tables in the rear devoted to conversations on different subjects. (By permission of the Bodleian Library, University of Oxford, Douce Prints W.1.2[203].)







Photo © The National Gallery, London.



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BRIT: 1000 CONT: 200

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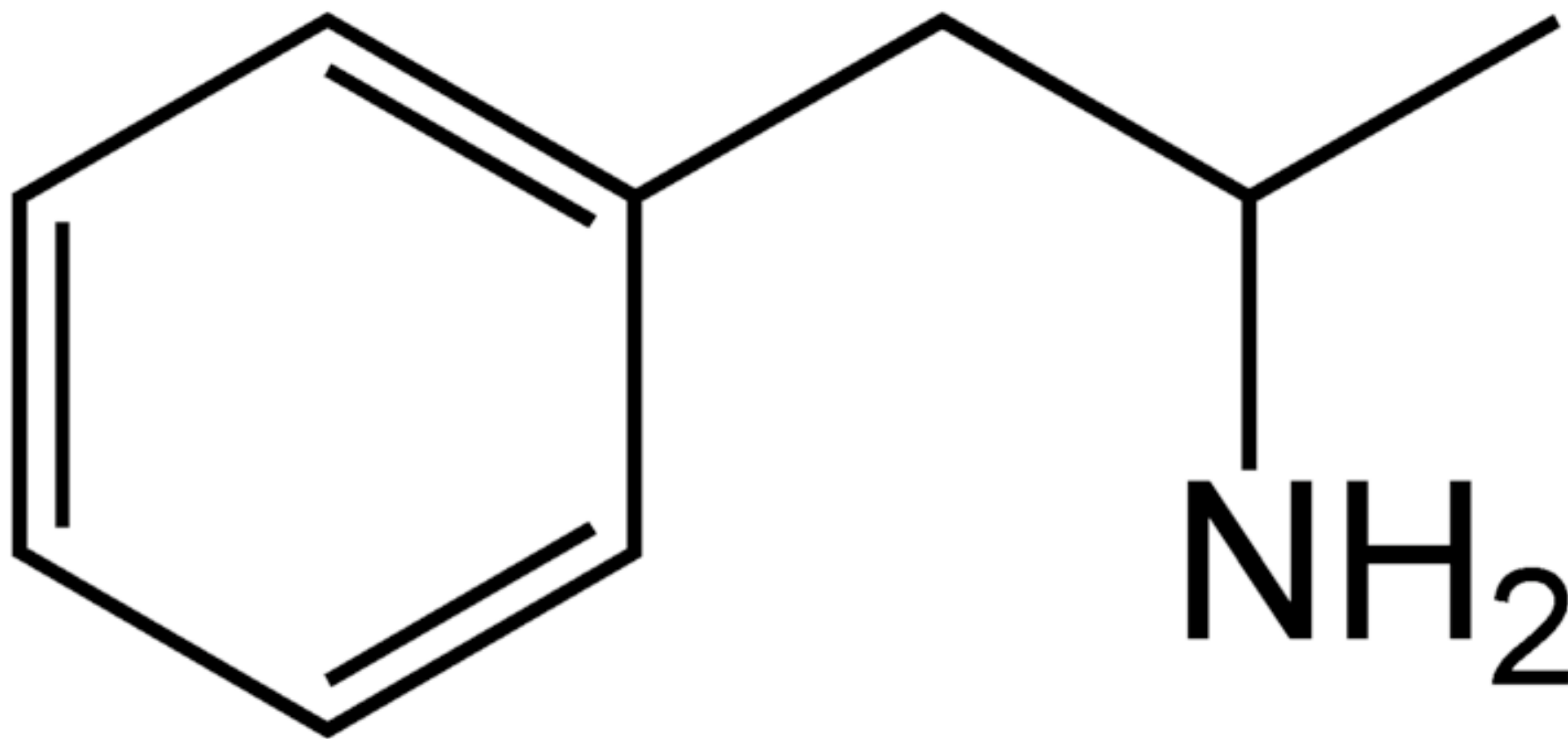


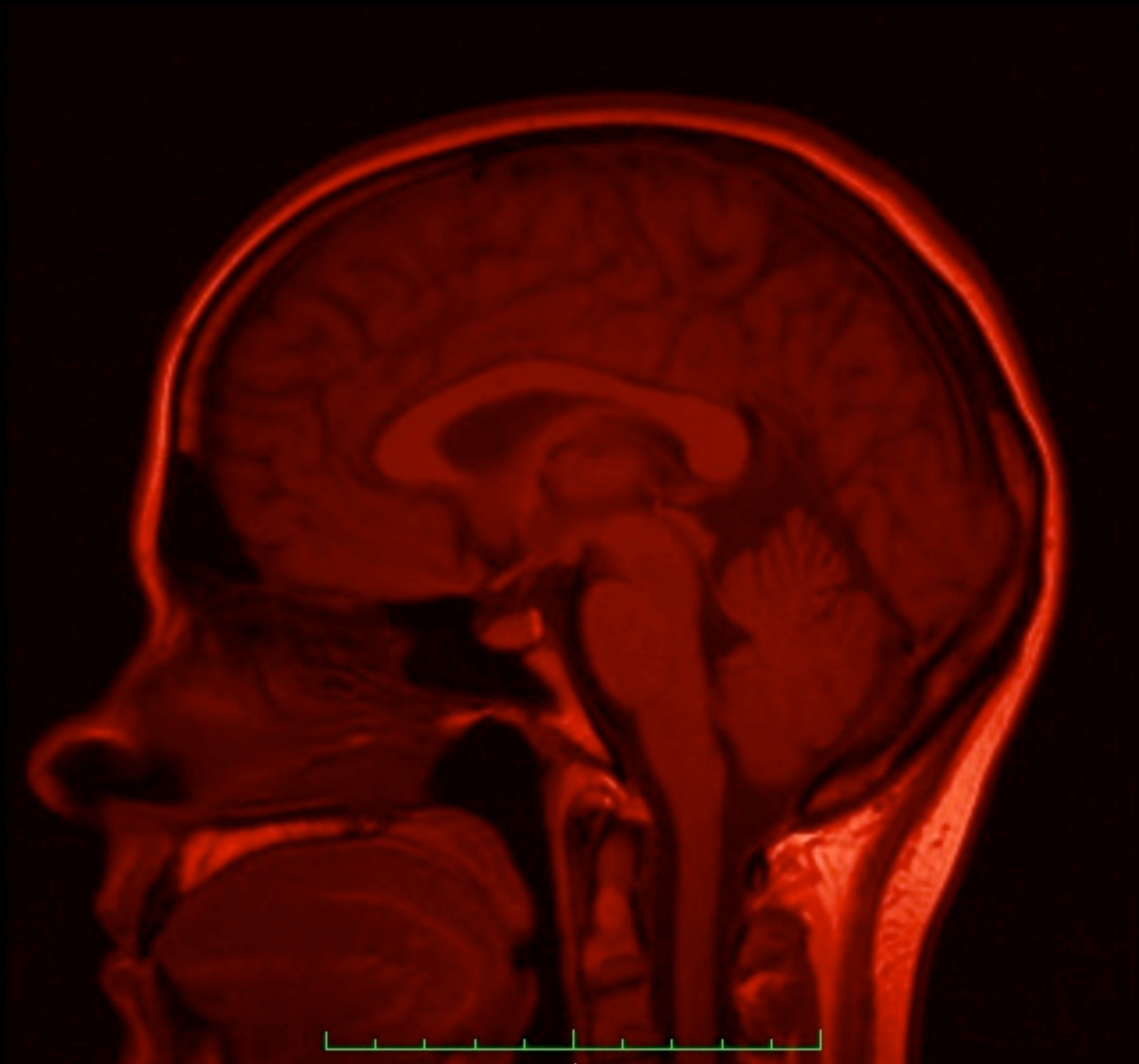
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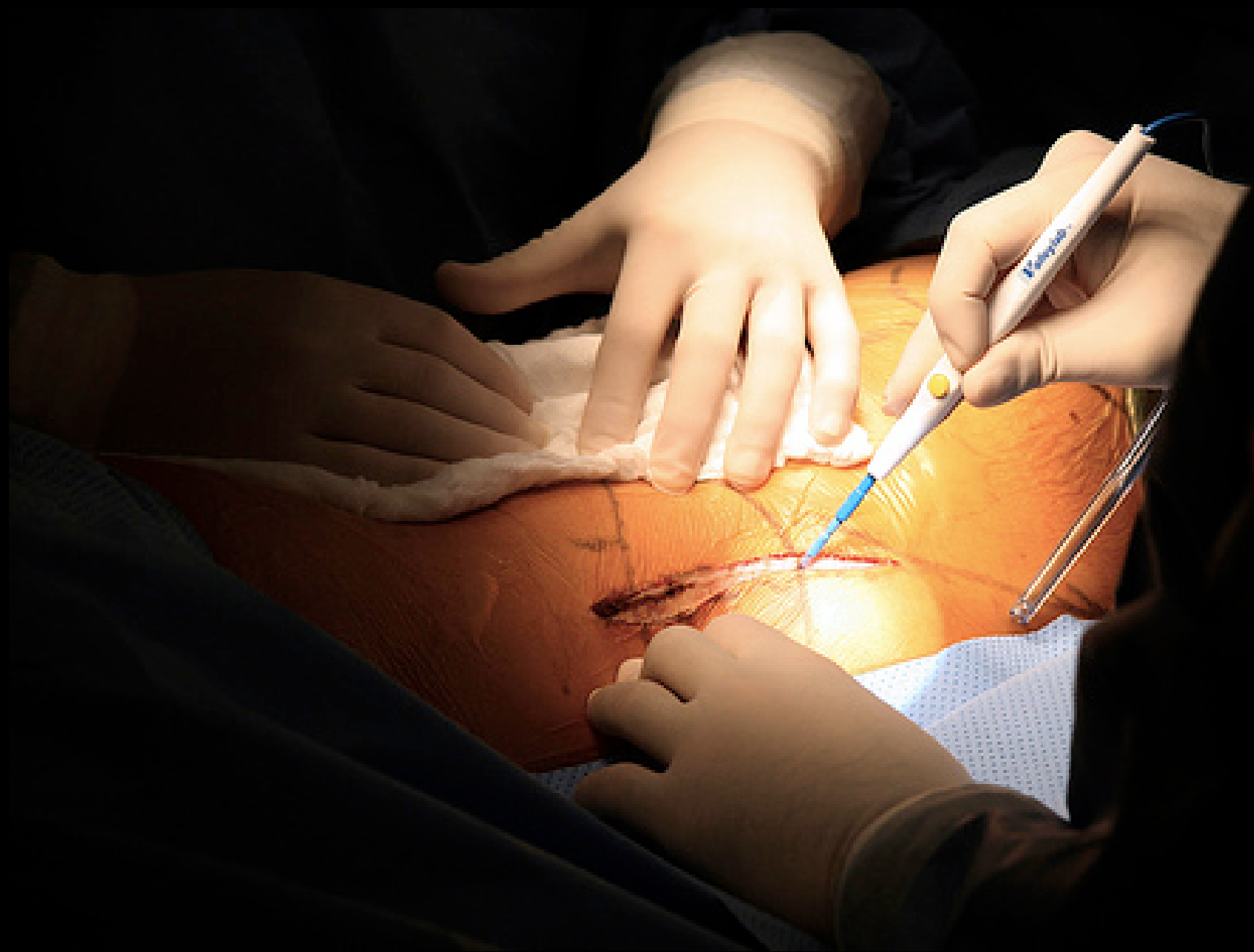
















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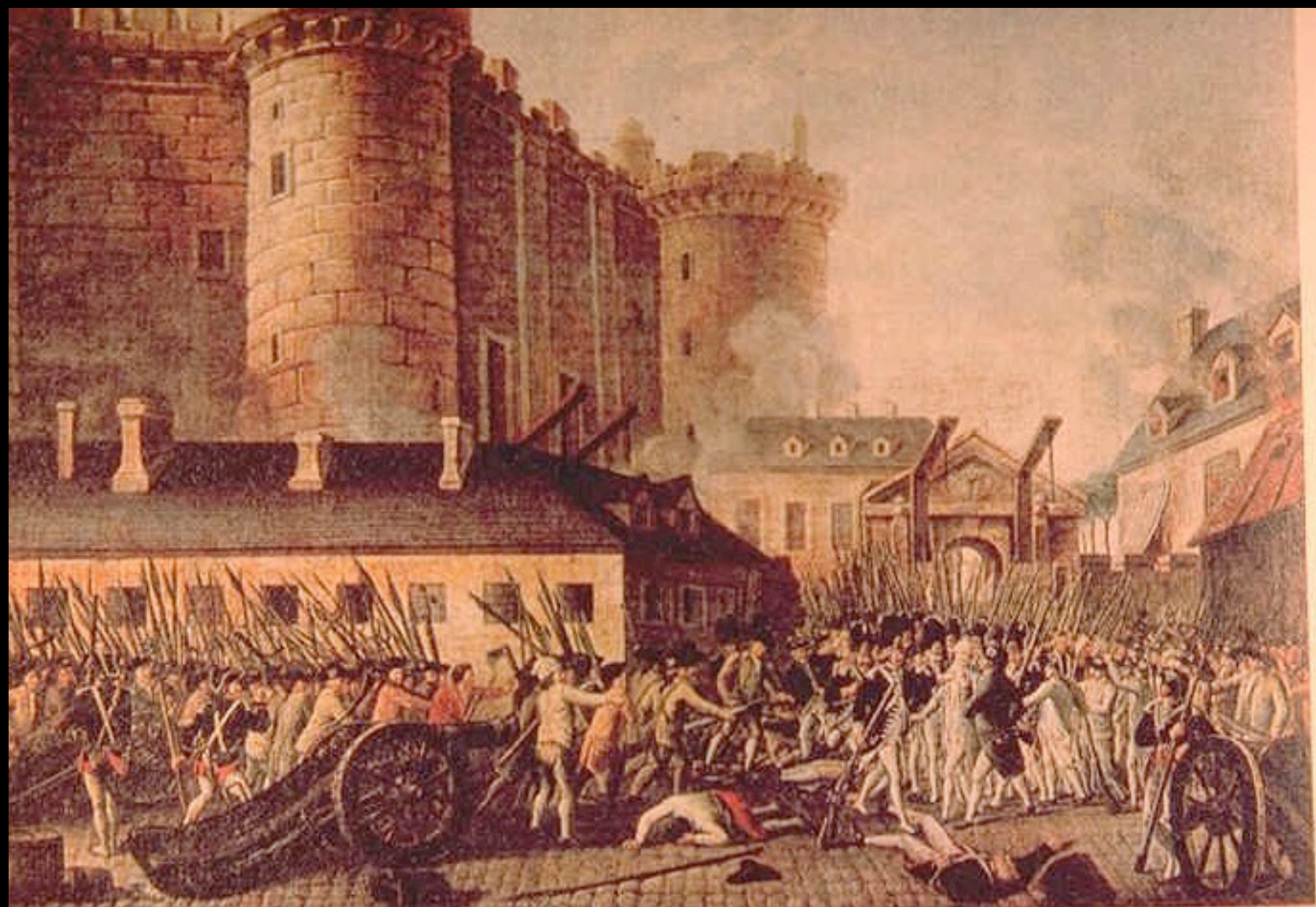
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By Charles Kaiser











By: satragon

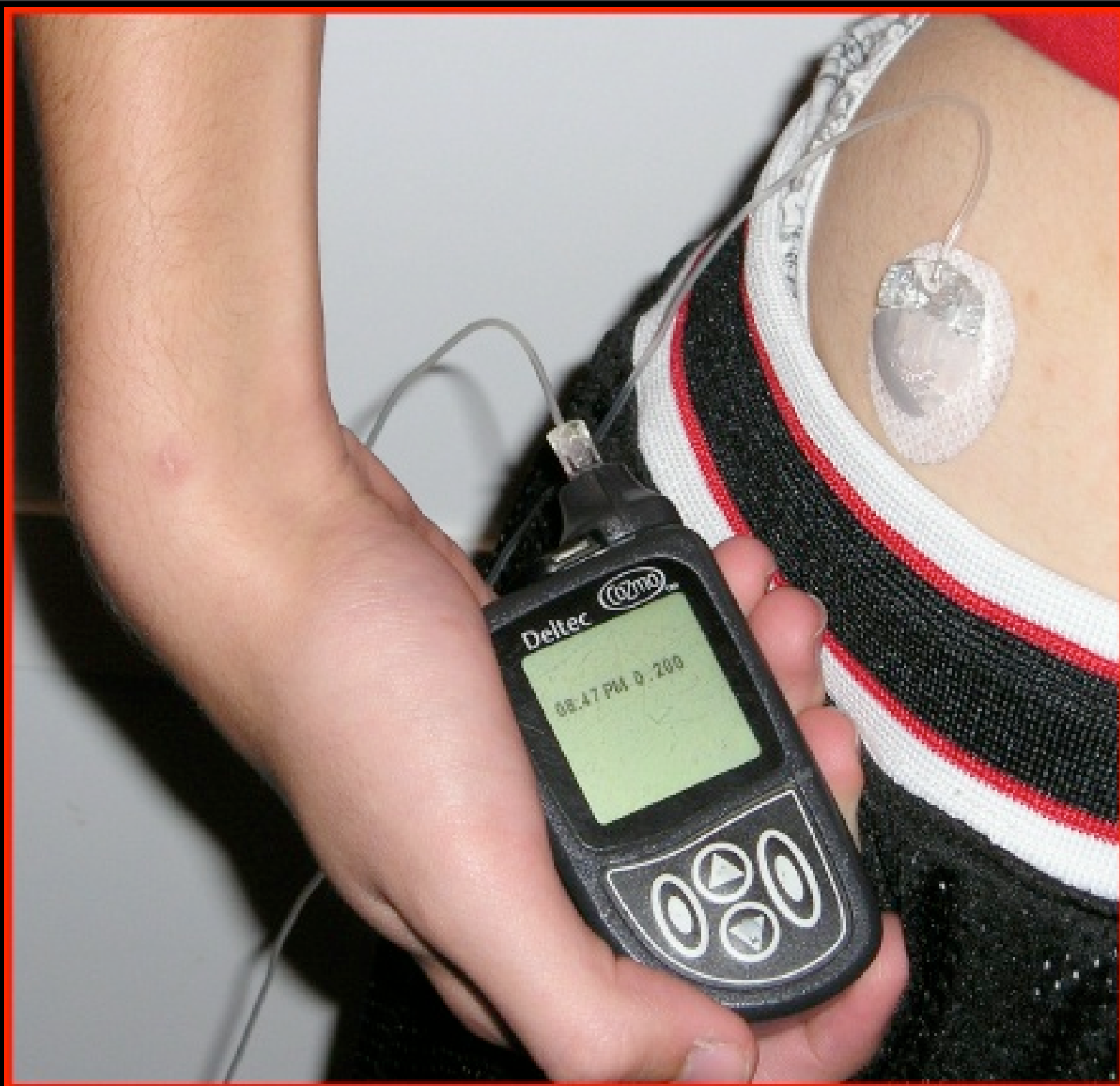


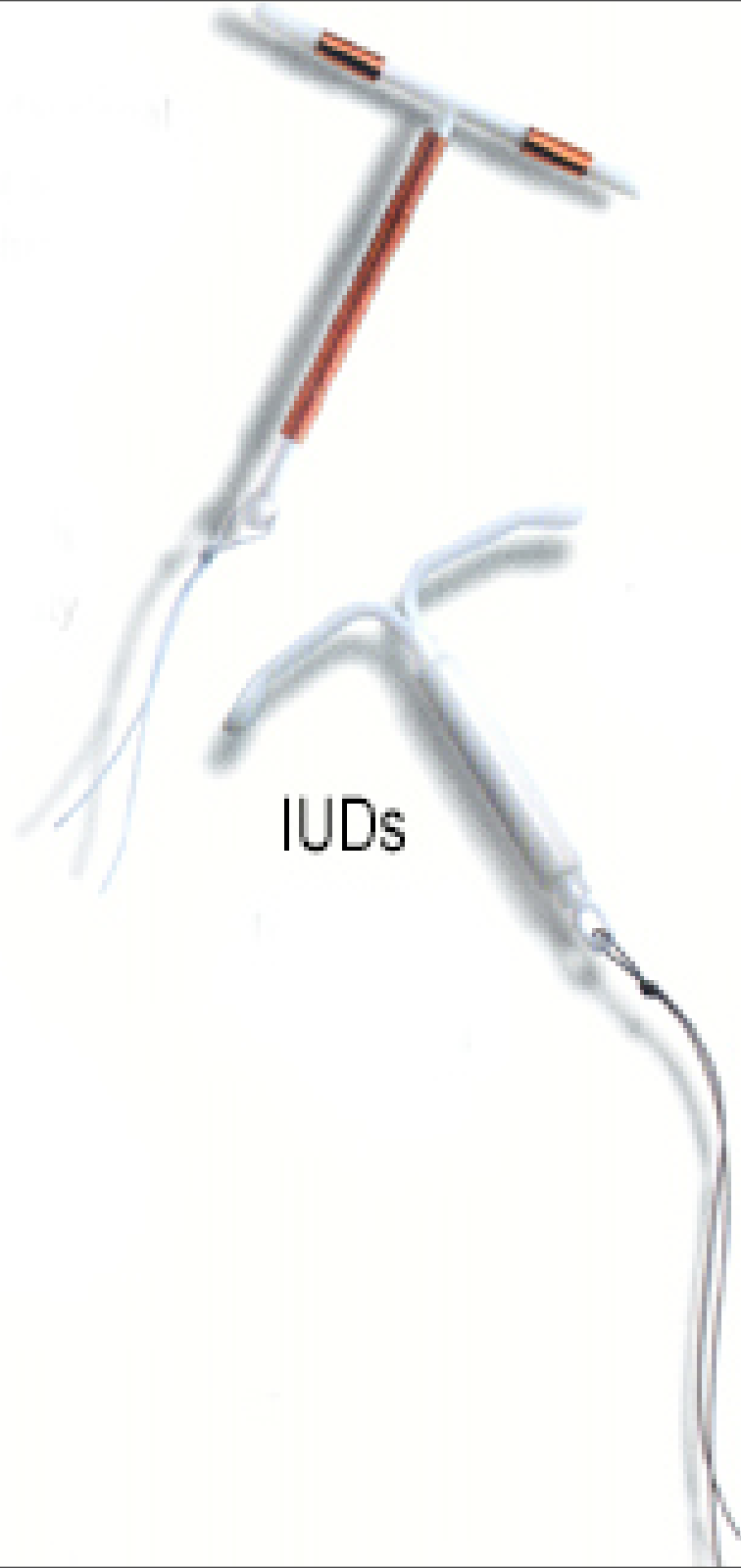




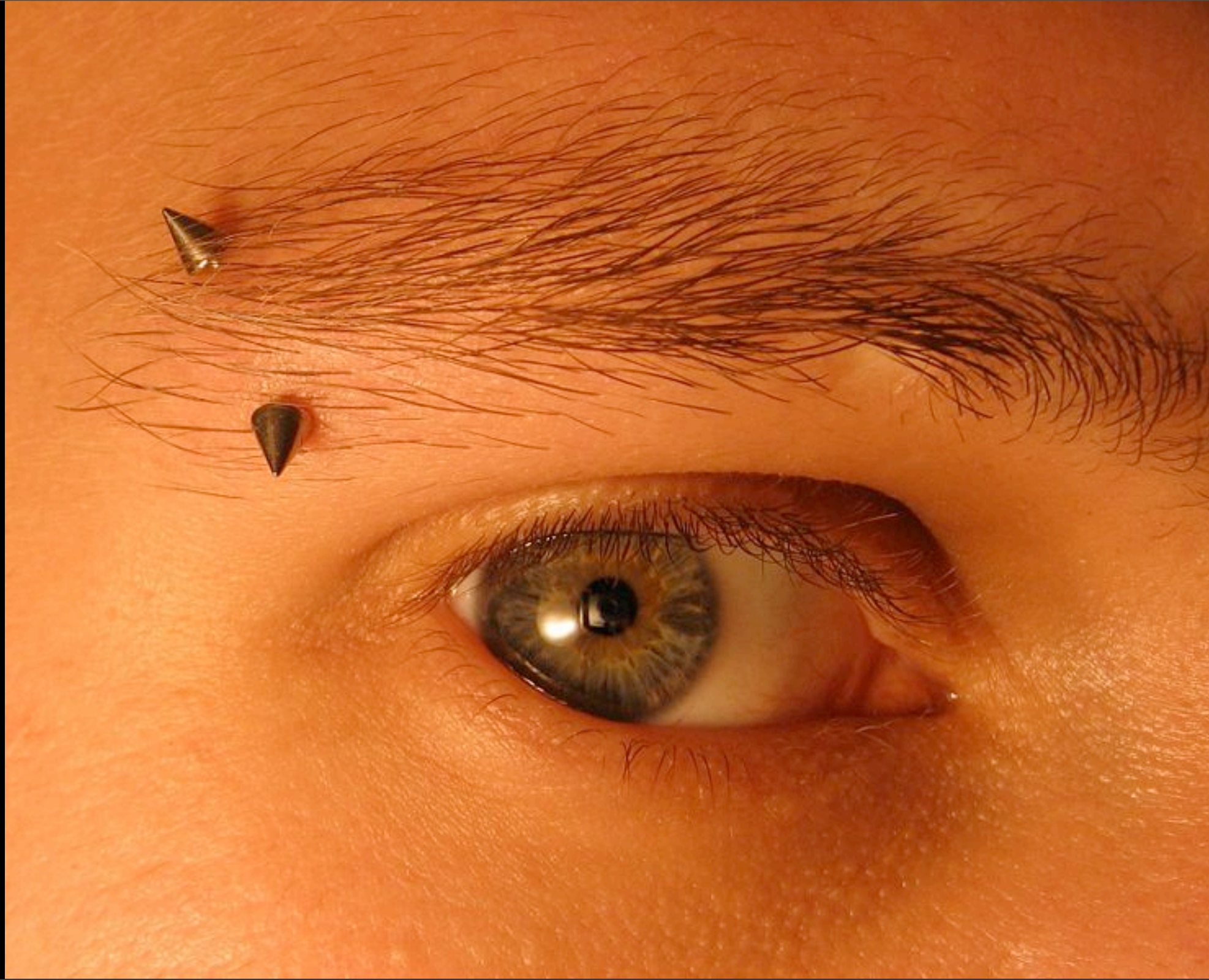


By: Floccinaucinihilipilification

















By Steve Evans











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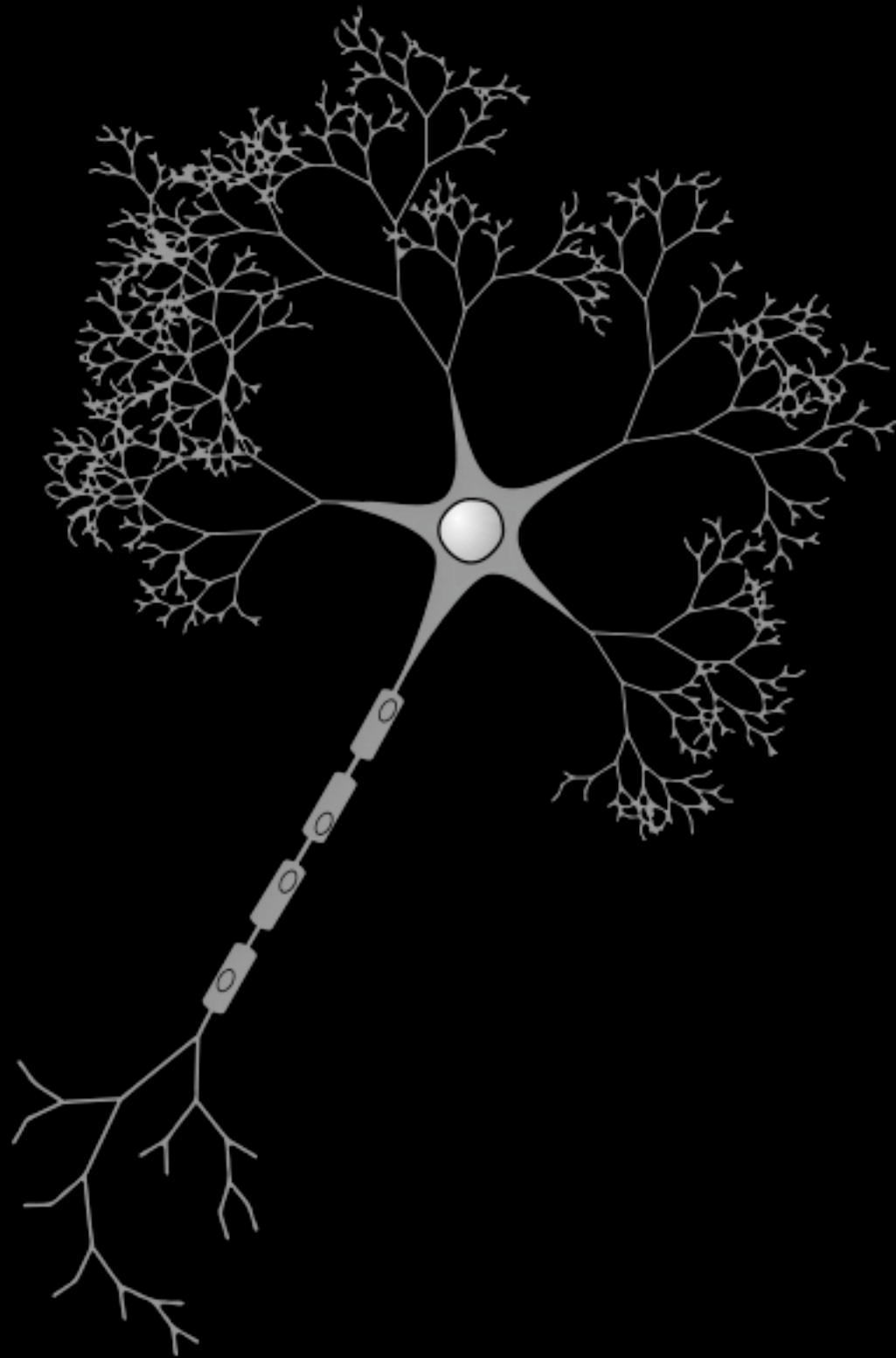
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William Rafti







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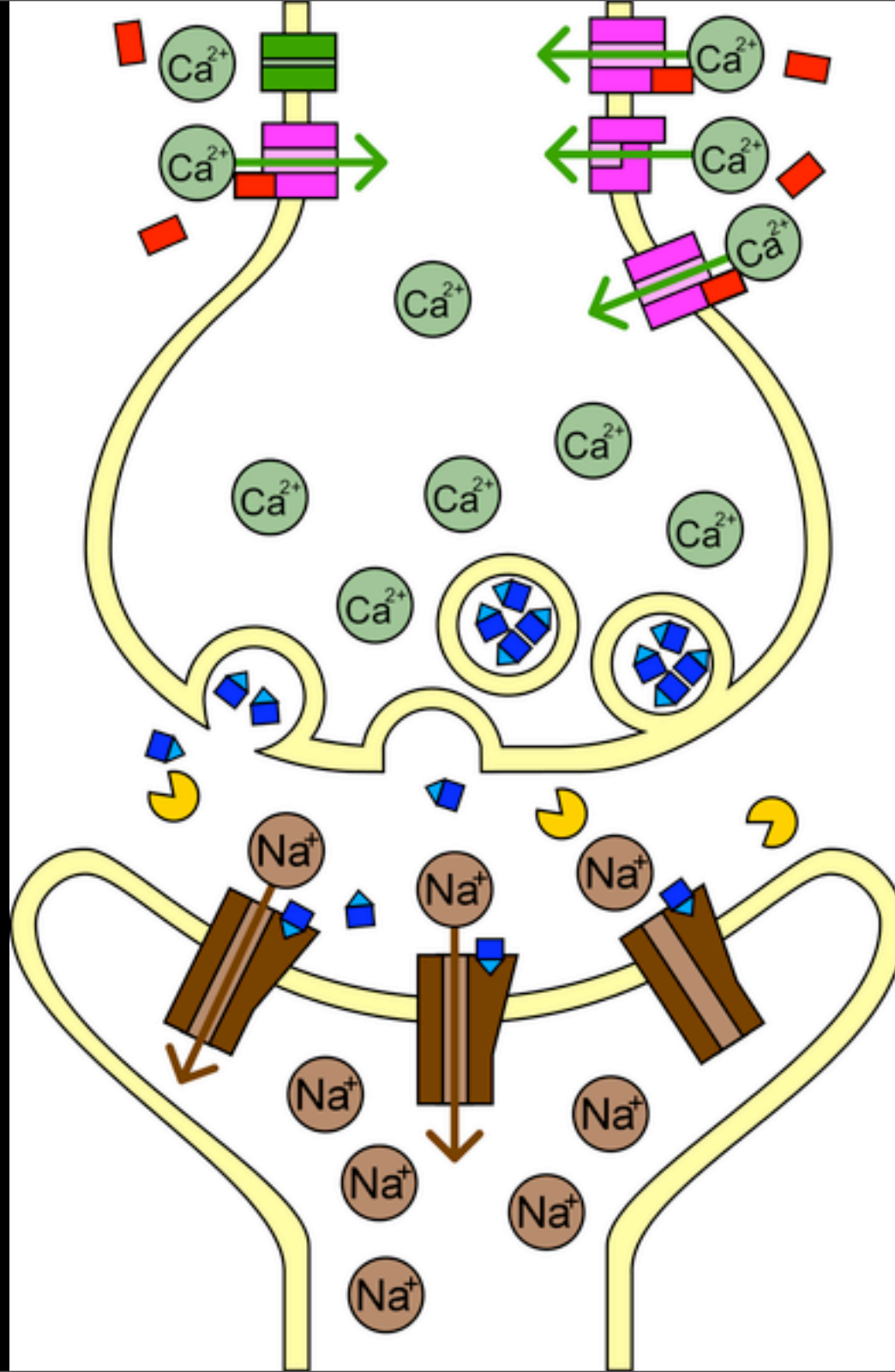
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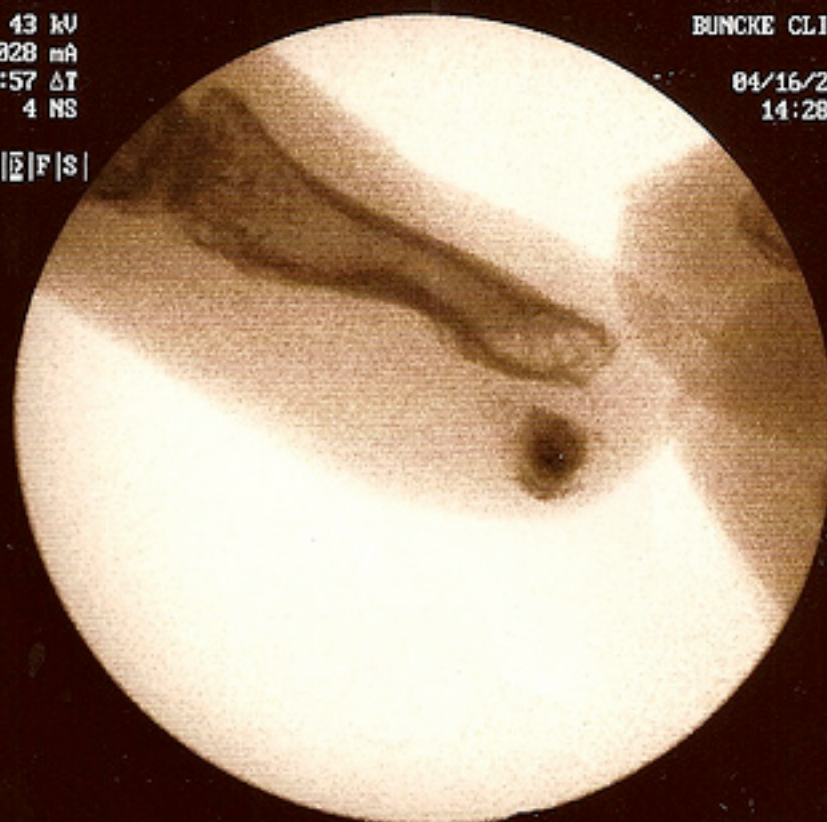


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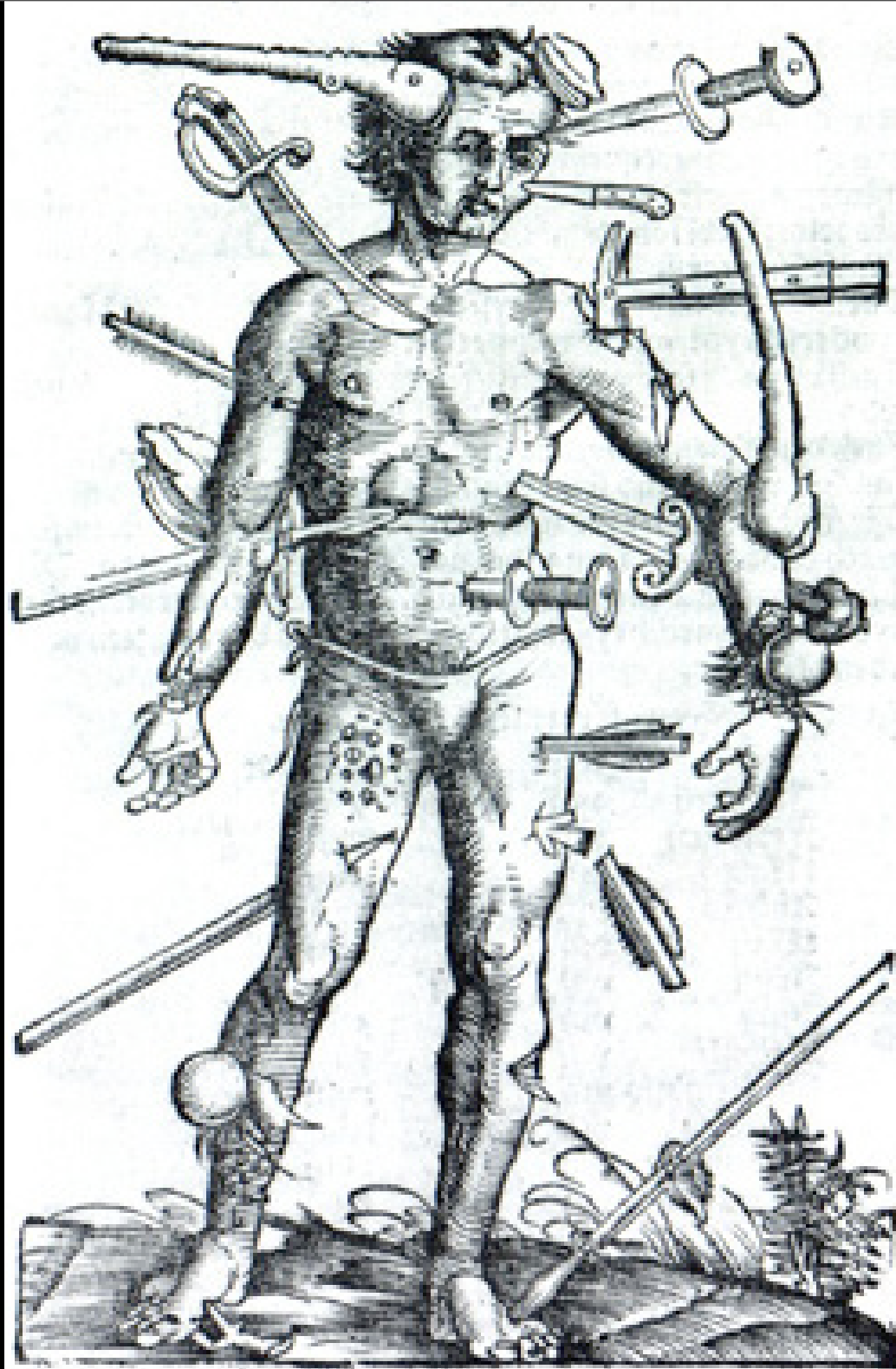














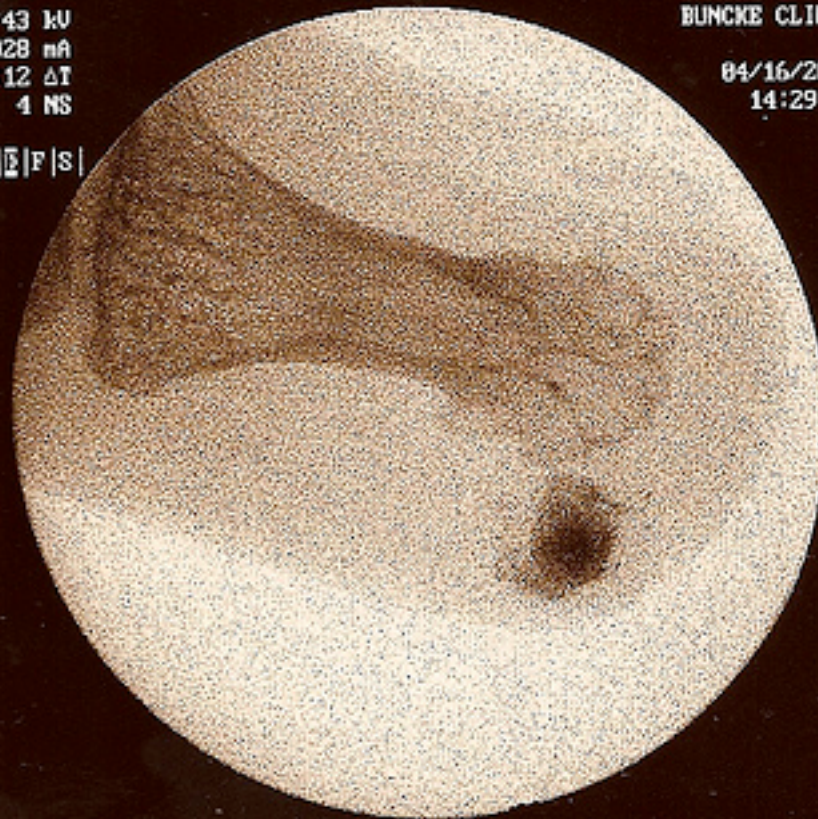


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4 NS

|R|L|F|S|

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○ I say these are not the parts  
and poems of the body only, but  
of the soul,

O I say now  
these are the soul!